Application Data Sheet

SCHNEEBERGER

Profiling carbide gear hob

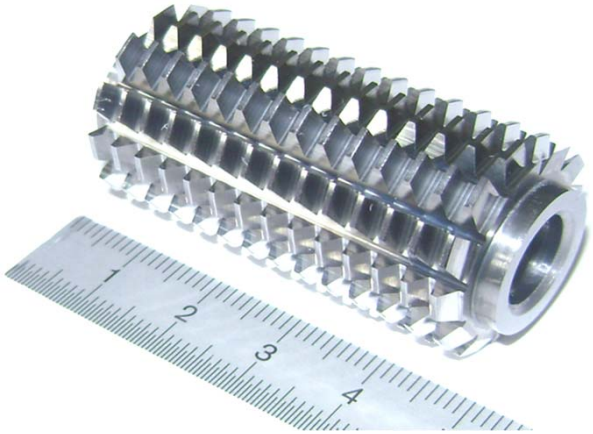
A12-030

Carbide gear hobs are used for manufacturing small gears in conventional (wet), dry, or hard hobbing (skiving) processes.

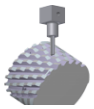
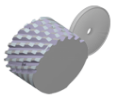
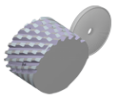
The given example is a module 1.0 carbide hob with Ø 24mm, 12 straight gashes and 43mm cutting lenght.

The tooth and wheel profiles can be generated based on DIN / ANSI-AGMA or customer drawing.

The hob profile was ground on GEMINI GHP with additional oscillating linear axis. Linear drives allow the usage of high speed machining (HSM) mode, which considerably reduces the grinding time.



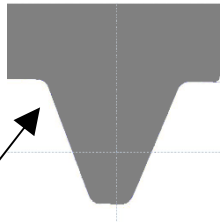
1. Cycletime for Production

Workpiece: Diameter 24 mm Material CARBIDE					
Operations	 Probe	 Dress	 Profiling	 Dress	 Finishing
Feed rate [mm / min]	2000	60	600	48	500
Infeed / pass [mm]		0.005	0.025	0.002	0 - 0.005
Cutting feed [m/s]		20	26	20	26
Used wheels		 1	 1	 1	 1
Cycle time [min]	1	2	20	2	5
Total cycle time	0 h 30 min				

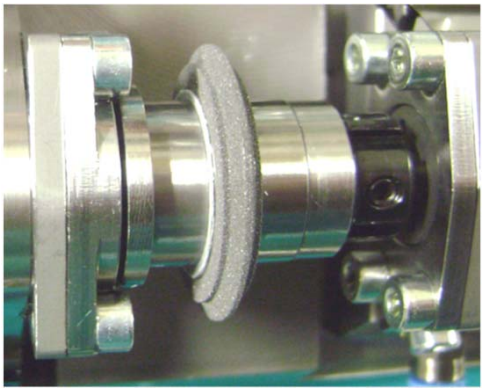
The cycle times are indicative. Material to be ground, grinding wheels, coolants can influence the cycle times considerably.

2. Used Grinding Wheels

14A1 Ø35 D64 C100 (profiled)



Wheel profile



3. Machine and Software Requirements

Machines:	6 axes CNC grinder : Gemini GHP	Coolant:	Synthetic Oil, pressure 6 bar
Control:	Fanuc 31i	Software:	Quinto 5
Accessories:			

Responsible engineer: SIW, 04.11.09